CONSILIENCE

Field Notes Volume 3: 2025



Phases

Consilience

Field Notes

Volume 3

Phases

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editors
Mirjam Mahler
Kevin D. Vallejo

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To the phases of creativity that bring us together:
preparation, incubation, illumination and verification.



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Notes on navigation:

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Where possible hyperlinks to related external content are also inlcuded.

Editorial

Mirjam Mahler

Volunteering as a poetry reviewer or editor for *Consilience* Journal has many perks. You get to read new poems and interesting science statements before everyone else, you get to help make good poems a little bit better and you get to meet interesting people from all over the world who are experts in poetry, science or both, and very generous with their craft and time.

The one big disadvantage is that as a volunteer you cannot submit poems for consideration in *Consilience* Journal. Once a year *Field Notes*, this special edition of *Consilience* Journal, is published. In this journal poetry and art submitted by the volunteers themselves is reviewed and edited by their fellow poets in the same careful and rigorous manner as in the Journal.

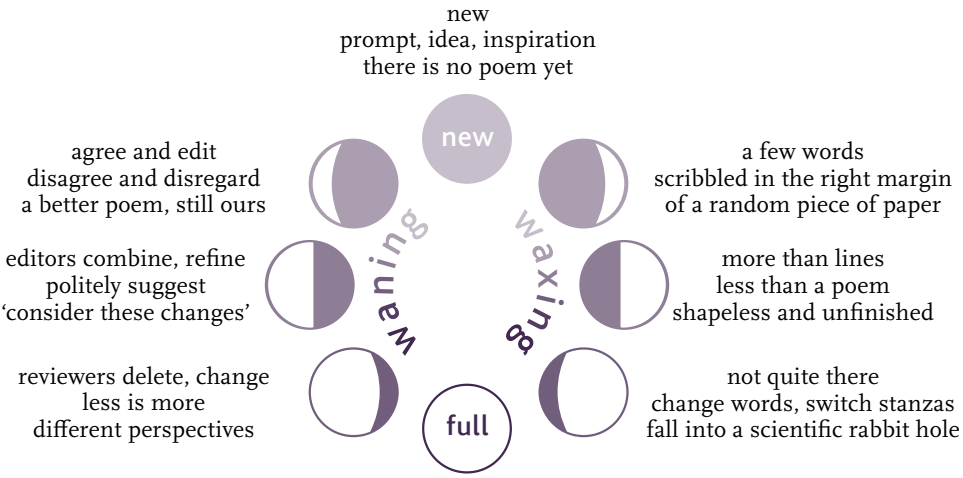
It's fascinating to me how as a poet we send off a perfectly crafted and thoroughly revised poem, shiny and round as the full moon, and as reviewer, we open the poem from a fellow *Consilience* volunteer and spot the first typo with only one glance.

This edition of *Field Notes* has 'Phases' as its theme, a subject that inspired scientific poets and poetic scientists to submit poetry with a wide range of themes and styles. The first scientific phases that came to my mind were the phases we can see with our own eyes like the moon or the phases we can experience in our own bodies like becoming an adult. I'm in awe of the variety of phases described in this collection.

Field Notes is our place to shine, thanks to all the contributors, editors and of course Sam Illingworth for bringing *Consilience* Journal into the world. The peer-review process can sometimes be long and challenging, but after the phases of reviews and edits poems come out so much better, fuller and rounder on the other side.

To illustrate the phases we go through, as reviewers and poets, I end this editorial with this visual poem -

The eight moon phases of a *Consilience Field Notes* Poem written in the Northern Hemisphere



Mirjam Mahler

Editorial

Kevin D. Vallejo

Much like the moon, what may appear as drastic changes in appearance have - after careful observation- wildly cyclical patterns. Careers develop, cells divide, fluffy clouds turn into raindrops, magnets lose their mysterious force after an impact, and funny ideas take shape on our fingers as we send that text or email. Our tendency as humans to identify processes, and causation within them, has been argued to be what has enabled our advancement as a species.

Embedded in every field of science is the concept of phases: rather than attempting to provide a definition or an etymological study, I invite every reader to go through each piece in this collection and look at the concept from as many angles as possible: exercise your civic duty to ask questions, think about phases, and even write your own ideas! As with many other concepts or ideas in science, what a phase is and how we decide its nature is the responsibility of anyone who wants to seriously engage in the discussion.

Being a part of the Consilience team has been a multifaceted privilege: not only do I get to interact with some of the most interesting souls at the intersection of science and art, I also get to read enriching poetry and be a part of the refining process that takes beautiful rubies and turns them into bright lasers. Each part of the project, each phase, provides poets and volunteers with the opportunity to communicate, learn, and spark the flame of curiosity anew with every conversation.

A few months ago, we started playing with the idea of a new edition of the annual "Field Notes" collection. In your device - or hands, if you decided to print this - is now the medium through which we hope to communicate something to you: we have spent many hours meditating, crafting, and polishing our message to ensure it carries a bit of ourselves in it; we have carved a channel in the world wide web to ensure an audience willing to read and wonder with us is able to receive our message; and we hope every reader finds a nugget of wisdom in every tree, neuron, moon phase, sigh, and hope forever engraved in the poems we now send to you.

Consilience

Field Notes

Volume 3

Phases

An Inventory of Interference

Frenetic exchanges
between waves or
stutter of drums that
mimics a brain
trying to walk all its thoughts at once.
Some say jazz, but also an old door
creaking —
respected yet uncomfortable, like
two shades of black that don't
entirely match.
Hope crushed
under the amplitude of violence, the stamp's ink
not yet dry before dissolving.
Silence.
Phased return means go back
to your distant land of dreaming
where reality has not yet observed you.

The milky rind of the full moon
rising clean above the houses.
My voice multiplying in the dome of my stomach
when I have the chance to say your name.
The water bursting its banks like a fulfilled promise.
An unexpected sequence of a stone skipping, the ripple
of warmth your smile pushes up to your eyes —
two black lakes, white swans curled and sleeping.
The kind of day that ends on a major chord.
I swear, you make me feel like when everyone jumps on Millennium Bridge
at the same time.
And then, again, silence.

Sunayana Bhargava

An Inventory of Interference

The Science

Inspired by the physics of wave interference, this poem explores what happens when energies meet - whether they cancel each other out or combine to grow stronger. Its diptych structure reflects both destructive and constructive phases. The poem is a meditation on the many meanings of "phase" - from the emblematic phases of the moon to the unfolding phases within music. It acts as a mirror to a fundamental scientific principle, divided into the realms of loss and resonance.

The closing image is a reference to the well-documented swaying observed on the Millennium Bridge in London on its opening day, as a result of unexpected resonance effects caused by pedestrians' synchronised footsteps.

Cellular doings: a retrospective

Spheroid. Concentric compaction expands
And figures animal. Propellant drops
Migrate and communicate, consume and
Collaborate to forge and welcome fates
Recycled. Cells become the cells become

Inquiry. Again, she strikes upon
Tangled tracks or fitful frames, flickering
Between incubator or microscope,
Singing in her headphone cubicle, set
To cut or dye, revise or iterate

Appendages. Doubled and quadrupled
Solutions and appeals, vital atoms
Unified and multivoiced, modulate
Levels—check the points—motifs along the
Course. In pulsing stream, orchestral rinse and

Repetition. Step by step progressing
'Mid periodic rest or hodgepodge meal,
With scissors or tape, she dissociates
Dishes into product or project, fed
Notes in taut duet, cytological

Realization. Cytokinetic
Evolution. Learning and aligning,
Synthesizing, squaring, diminishing
To confound and constellate collective,
Branching wherefore branching. Circle wherefore

Circle. Intentions multiply or hide,
Yet synthesis is mostly synthesis;
Mitosis entirely mitosis,
She thinks, and codes a voice for instruments
Where cells begin where cells begin anew.

Corey Bunce

Cellular doings: a retrospective

The Science

The sequence of phases a cell goes through for replication is referred to as the 'cell cycle'. The major phases are synthesis (S phase), wherein the cell copies its genome, and mitosis (M phase), which encompasses its division into two cells. S and M phase are each preceded by what is called a growth phase, in which the cell prepares for the subsequent phase alongside its other activities. During embryonic development, an important additional activity is 'differentiation'. Cell differentiation refers to the changes a cell undergoes as it becomes specialized for a particular role in the organism, such as becoming a muscle cell or a blood cell. Typically, the cell cycle and differentiation are considered unconnected and researchers study them individually. Yet, sometimes the processes are meaningfully entangled. The poem contemplates the degree to which we can reasonably suppose cells are doing one of these to the exclusion of the other by making a comparison to the activities of the researcher, who is performing scientific experiments (e.g. cutting, dyeing, coding) while listening to music. If in seeking to understand scientific research, we disregard activities that are not typically associated with science (such as singing), might we miss a crucial component of how science can work?

Relapsing to thinking about the passing of time & impermanence

July. The sunflowers take over. The sun warms the earth, coats
their bodies as they're called towards it, curious

to see what's on the other side. They grow to one, then two metres
high. Soon neighbours remark on the joy exhaling from our garden.

And for a moment — stillness. A want, no, a craving for maintenance.
Stasis. Resisting the push and pull of time, the bitterness of falling

back. It catches on my throat like a cigarette ghost.
Yet I know — at summer's end, their heads will bow down

leaves will curl brown, as the air becomes moon-
cold, the light a fine thread of smoke.

And when they turn their yellow-rust faces, the sun will be delicate, tired.
And soon it will be time to say goodbye, not au revoir.

But for now just look

Rachel David

Relapsing to thinking about the passing of time & impermanence

The Science

Maintenance is one of the last phases of a health psychology/behavioural science model catchily called the transtheoretical model of behaviour change. It is the phase of change where a new behaviour has been adopted (say, stopping smoking) and is being maintained, with the ambition of avoiding relapse to the old behaviour. The previous phases are pre-contemplation, contemplation, preparation and action, and the last stage is termination (more).

Looking at my sunflowers slowly dying as autumn came in, I couldn't stop thinking about the passing of time and the inevitability of change. So this poem is a reflection on my own 'relapse' back to thinking about impermanence after the joy of summer, and the impossibility of maintaining my sunflowers (and what they represent) forever. On a less depressing note, staying in maintenance phase and avoiding relapse when it comes to actual health behaviours (like not smoking) is not impossible. The cigarette is thankfully, at least for me, just a ghost.

صفر مقدس

با چشمانی کاملا باز!
در آغوش هم پرواز می کنیم
و با چشمانی کاملا بسته!
مثل فواره ای از اوج
بر تن دریاچه ای می نشینیم
وقتی در وطن هم هستیم!
وقتی آزادی مان صفر است
صفر...

Sacred Zero

With eyes wide open!
We fly in each other's embrace
And with eyes tightly closed!
Like a fountain from the heights
We settle on the body of a lake

When we are in our homeland!
When our freedom
Is zero
Zero

Mohsen Dolatabadi

Sacred Zero

The Science

A eutectic point is the specific temperature and composition at which a mixture of substances melts as a single unit, at a temperature lower than the melting point of any individual component. This is a phase transition from solid to liquid. At this point, the mixture has zero degrees of freedom. This inspired the poem, imagining two entities in a tight embrace, achieving a new, stable state with a lower energy threshold—a sacred zero.

como la luna | like the moon

tu cara es como la luna
distante pensativa
pendiendo de un lado
y hasta casi pensaría
que no me ves aquí
pero como la luna
tu halo me ilumina
apartas las sombras
te ocultas entre los árboles
déjame ver mi camino
creces y menguas
como la luna
las fases de tu cara
diferentes en cada ángulo
pienso que te veo
claramente
desde el lado oscuro
te amo como la luna
brillante distante ligero
no del todo un espejo
siempre allí

your face is like the moon
sentient from a distance
hangs a little to the side
and i would almost think
you don't see me here
but like the moon
you burnish my reflection
pull aside shadows
you hide in the trees
let me see my own way
you wax and you wane
like the moon
your face has phases
different at any angle
i think i see you clearest
from the wrong side
i love you like the moon
brilliant distant light
not quite a mirror
always there

Spanish adaptation by
Mariana Moroni

English by
debora Ewing

como la luna | like the moon

The Science

The poem compares the phases of friendship with the phases of the moon as viewed from earth. The psychological aspect of mirroring, or Isopraxism, is addressed as the narrator explains self-understanding by comparing the observed person to the moon. Involuntary synchronization can build trust and strengthen bonds across diversity.

This poem also implies a struggle with attachment style disorder as the narrator reconciles with how "you" are sometimes not present but keep coming back.

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Scientific Progress Cento

with lines from Microglia states and nomenclature: A field at its crossroads

we humans instinctively tend to name things
biologists are no exception:

categorizing the natural world
as a way of understanding

research has advanced considerably in recent decades
yet has been constrained by

dualistic classification
forcing us to fit our observations into

dichotomic good versus bad
detrimental or beneficial

but we must never forget
the main purpose of biology

we do not know
we do not know

the apparent contradiction
from the evidence available so far

we do not know
what we mean

when we talk about
the most dynamic cells of the healthy mature brain

these observations raise the question
a burning question that surely requires further investigation

how to
offer clarity instead of confusion

biology is seldom black and white
but rather an extended continuum of grey

new strategies are currently being developed
evolving with

the striking morphological transformation of
scientific
research

Kate Giffin

Scientific Progress Cento

The Science

In this poem, I wanted to explore the phases of a scientific field and how scientists themselves change their minds. At the beginning of my PhD research career, a paper was published attempting to shift the way scientists view and talk about the subject of my research: microglia, the immune cells of the brain. This massive paper ("Microglia states and nomenclature: A field at its crossroads") had 98 authors and their words make up this cento poem. Centos, sometimes called patchwork or collage poems, are composed of lines usually from other poems. I chose this paper because of the influence it has had on me and other microglial biologists. Microglia are massively important to brain function, both in health and disease, and were largely understood to exist in one of two states: resting/normal/good or activated/abnormal/bad. We now recognize that microglia are dynamic cells that constantly shift states depending on their context. This paper emphasizes that research itself must also shift as we gather more evidence, both the language we use to describe our findings and the questions we focus on.



Haematite

Kayla-Jane Barrie

Haematite

The Science

The Moon is a geological record of its interactions with the Sun. Recent research reveals that oxygen particles blown from Earth to the Moon can transform lunar minerals into haematite or rust. For about five days each month, Earth blocks these particles, allowing the Moon to be hit by particles from Earth's atmosphere. This wind carries ions such as hydrogen, oxygen, and nitrogen. When these charged particles strike the Moon, they can embed themselves in the lunar soil and trigger chemical reactions, such as causing rust.

Pond life

Hear me. Let me speak to you of rounds.
It's winter now and drops of frozen rain fall faintly
on my surface. Fleeting. Sleeting. Slush.
Somnolent. Grey and gloom entwined. Like a steel forge
with its fire long gone cold. Dormant. Bellows becalmed leaving
the sludge and slime of my depths to slumber in
the doom dark days from Samhain to the hibernal solstice.
A waiting abating time while the
glassy skein of my edges pause patiently
for days wrought of emerald shades when

spring beckons. Bellows bounce back. The
deep dark breath of winter inexorably exhaled,
The reciprocal altruism of spring solstice exudes elasticity.
Life abounds all exothermic and animated. Energy. Sound rises like a symphony as
the bellows echo the push and pull of life anew.
Greens teem. Laundered abundance reigns verdant and the bellows bounce and boom full steam ahead.
Nature the smith that cajoles life into being. The embodiment of ecosystem essence. Profusion and bounteous
potency, a myriad of plenty that surges into

summer that weighs heavy. Sultry. Stifling. Stagnant.
Bellows languid, lethargic. Exhausted.
Sun so strong it slaps the face of any lilies that
float on my surface. Leaves like luminous lime
parasols. Bastions of shelter for all. Sluggish
sky so hot it chokes on itself. Dragonflies live lazily.
Sashay and slide. Wings wearily winding down to land on
angelic pearl petals of iris in bloom. Gasping for air. Life only
threatens to loom larger. Vitality and vigour molasses slow
in these sun blown dog days. Pending the burnished, brassy
blazonry of

autumn that summons life to slow down. Unwind.
Prepare for dormancy once more.
Ease into a sleep born on the kaleidoscope
of senescence. Leaves leave their polychromatic,
mottled, marbled mark on my frontiers. Those liminal
spaces between me and the land that houses me.
Bellows begin to breathe down. Shrinkage and
constriction as I contract in the coming chill that
heralds winter once more. Quicken to quiescence.
Year circumnavigated. A round once more.

Alison Hramiak

Pond life

The Science

This poem is a 'story' told through the voice of a pond as it moves through the seasons in a single year. Through the voice of the pond, as the storyteller, the different phases of a year in its life are conveyed, one by one as the year unfolds. This is done by likening the phase changes to a set of bellows as used by a smith - a seam that threads through the poem. It is based on the pond I have in my garden and reflects the different phases it goes through as the year turns, asking the reader to think about the change of seasons from the pond's point of view. The different phases incorporate various different scientific terms as part of the metaphors used throughout the poem, for example, the dormancy of winter, the exothermic energy of spring, the kaleidoscope of senescence in autumn, to name a few. I wanted to write the poem from the point of view of the biological entity that was also being written about, giving power and sentience to nature through expression, as it were.

Moonbody

The Moon does not ask –
it pulls.
On oceans,
on sap,
on salt behind our eyes.

Tomatoes lift towards it
with the same curiosity
as coral losing itself to sea.

A waxing slice of light
presses rootward
through soil
as potatoes swell in shadow.

Some call it ancient wisdom.
Others, gravitation.
I call it
a reminder.

That tide means timing,
that rhythm is resource.
That some things
grow only
when the moon says so.

A child sleeps
but stirs beneath the Full Moon's sheen –
restless,
as if tugged by silver thread.

The lion waits.
The mouse watches.
The body knows
what calendars forgot.

Even now,
a seed splits quietly
as Moon rounds into whole.

Sam Illingworth

Moonbody

The Science

The Moon does more than light up the night sky, it subtly influences life on Earth. This poem is inspired by new research, which explores how the Moon's gravity and light affect ocean tides, plant growth, and even human sleep and mood. During a Full or New Moon, its pull is strongest, stirring tides and drawing plant sap upwards. Farmers following lunar rhythms report better crops by planting at specific phases. Even animals and people respond; corals spawn in sync with the Moon, and some of us sleep less soundly under its full glow. By blending ancient farming wisdom with modern science, this research suggests that lunar cycles could help us grow food more sustainably and live more harmoniously with the natural world.

Hair Dye

Didn't we all experiment
with our hair during lockdown?
With real life cancelled,
weren't we all dyeing
and cutting our own hair?
Or we let it grow
down
to our shoulders
chest
waist
hips.

Trapped with every day the same,
didn't we crave novelty?
Confined in our pandemic prisons,
our home hairdos exposed
our other selves.
We changed
who we were,
and revealed our
detached
realities in our hair.

As our sedentary selves stared
at screens, didn't we long to stretch
our legs? Circadian cycles
shifted as our hair grew
dishevelled through restless nights.
We emerged, briefly
transformed
and raised our heads
to desolate streets.

As time stretched,
didn't we drift
in and out
of hope? We stayed
home, adapted, banged
our pans as the frontline
tied back their hair
and fought for our
freedom.

And me?

Copper
then
electric blue
faded
to turquoise.
Then
bleach blonde
like the sand
we couldn't
reach.

Five years on,
chestnut with beach blonde tips
growing out
of who I was.

Next haircut she'll be gone -
the girl who faced the World over
Zoom.

Anna Joyce

Hair Dye

The Science

This poem explores the phase of social isolation experienced during lockdown. Many people experienced deterioration in mental health during this time, increased loneliness, and changes in biological markers and circadian rhythms; whilst for others it was a peaceful time with reduced air and noise pollution and welcome time with family. Whilst around two thirds of people experienced some negative impact on their sleep, around a quarter experienced improved sleep as they were better able to align sleep with their circadian preference.

With hair salons closed, many people grew their hair or took matters into their own hands, experimenting with different hairstyles and colours, embracing imperfection or low-maintenance styles. With fewer social pressures, many people felt freer to play with bolder colours and experimental styles, including me. It was an opportunity for people to reinvent themselves. Hair became a form of creative self-expression and emotional release, allowing people some control, an activity to pass the time, or simply break the monotony of lockdown.

Lethargy, microorganisms, gardening, war

Phase 1: Probable

When the sea ices melt
more disinformation comes
Then – Trump, tariff war, tech revolution
with great promises and few restrictions

We depend on technology
to replace us
let robots into our homes
to monitor our daily lives
a black market for AI emerges
Drones and deepfakes escalate conflicts

War

But life is easy
with all our naïve tools and gadgets, stacked like bricks
we become lethargic by a willful weakening of our minds
so we manifest a will to move
from technology to mindfulness

Phase 2: Desirable?

We are rising for change
Increased democracy and solidarity
allows us to work together, tear town walls
but we stay inside because of the heat

The cooling down of houses and server farms increase
energy consumption, bringing air pollution and global warming
We fail to act
Suddenly the Netherlands is under water

We turn to ingenuity and technology, again
We develop microorganisms that clean the oceans
ban fossil fuel, add solar power
to all our houses

Our communes are small
due to birthrate restrictions
and with less consumption
we find new ways together
gardening for our families and community

War

Phase 3: Possible

But the microorganisms take over
But we finally find that cure for cancer
But another worldwide pandemic emerges
But our robots can handle the surgeries
But then Trump comes back as a robot

War

We are living in green world colonies on Mars
which we will soon abandon
and move on to the next big thing

Hannu Larsson

Lethargy, microorganisms, gardening, war

The Science

This poem explores phases of development towards future states, envisioned by students and higher education teachers. It attempts to answer the question "Which future states are envisioned as probable, desirable and possible?". Future thinking and anticipatory competence (as outlined by Unesco 2017 in "Education for Sustainable Development Goals. Learning Objectives") are critical skills for working with sustainability, explored here using a pedagogical tool for imagining futures. The poem is a result of three workshops, with 18 participants in total, with four different timelines being constructed by students and teachers. The workshops were inspired by A Rounder Sense Of Purpose timeline exercise. The timelines were constructed using post-its and laying out a timeline (ranging a chosen number of years, where they chose 25-100 years time).

I have created the poem using a qualitative research approach, by treating material as found poetry. Each timeline was transcribed verbatim and then merged by identifying themes. Overall I have attempted to stay close to the language used by the participants, although reformulating some parts to clarify the emerging narrative. In the last stanza of Phase 1 I have adopted a smaller part from the poem Museum of Obsolescence by Tracy K Smith.

pull, breathe, kick, glide

as I begin my swim across the lake
my busy mind wonders:
who came up with
this strange choreography?

pull, breathe, kick, glide

I remember my first attempts
thrown into the deep end
forgotten instructions, confused limbs
today my body remembers

pull, breathe, kick, glide

one: arms sweep outside, hands	pull
two: exit the calm green world	breathe
three: legs take over	kick
four: the culmination, the peak	glide

pull, breathe, kick, glide

a delicate balance of breath and movement
prepare, execute, recover
I wish I had the same calm clarity
outside the water

pull, breathe, kick, glide

with each repetition
my mind calmer
my body in balance
meditation in motion

pull, breathe, kick, glide

one: me
two: breathe
three: strong
four: fly

pull, breathe, kick, glide

with every stroke I transform
from water being
to human being
a liquid ballet of muscle memory

Mirjam Mahler

pull, breathe, kick, glide

The Science

Breaststroke swimming was first introduced to prevent drowning, mimicking the movements of frogs. Combining observations, research and individual experiences, the style was adapted to the technique we learn and use today.

The complex biomechanics of swimming require both power and skill. The breaststroke swimming style is divided into four phases: pull, breathe, kick and glide. Within each phase, a series of movements needs to occur for the next phase to be executed. Learning to execute the different phases and the correct transition from one phase to the next requires years of mental and physical training. Children ideally learn how to swim by understanding and adapting to the element of water, then slowly learn to perform the movements in a more specific way.

Once this skill is mastered, the swimmer can let muscle memory take over and free the mind. As a year-round open water swimmer, I can attest to the meditative aspect of swimming. The repetitive movement and breathing is calming, experiencing nature is inspiring and observing the body's reaction to different water temperatures is fascinating. Swimming in cold water regularly improves circulation, boosts the immune system and reduces stress.

I can recommend it as an excellent alternative to quiet mediation.

Learn more about the science behind cold exposure from Dr. Susanna Søberg who has published extensively on the subject both scientifically and for the general public.

I can highly recommend the following books on swimming, the body and the mind and cold and hot exposure. These combine stories and observations with science and expert opinions: 'Why We Swim' and 'On Muscle: The Stuff That Moves Us and Why It Matters' both by Bonnie Tsui, 'Everyday Sisu' by Katja Pantzar and 'The Power of Hot and Cold' by Katja Pantzar and Carita Harju.

Famine and grief in Palestine

content note: **genocide in Palestine, involving starvation, death and traumatized children**

The hungry and exhausted doctors
can easily count
all the bones on your spine.

You are just a child,
But unfortunately for you,
From Gaza, Palestine.

Once a paradise, now hell.
Your food aid is left to rot at the borders by Israel.
Your olive trees are attacked and burned by Israel.

The IPC describes 5 phases of famine.
Which phase are you in?

Surely not in phase 1:
Your family is not allowed to meet
your essential food need.

Neither does it look like phase 3:
Your household is not allowed to meet
even minimally adequate food need.

You are in phase 5.
Your household has very little food
however much they try.

You are skin and bones.
Your family tearfully watches
their beloved child wither and die.

Your body is being failed.
What about your mind?
Which stage of grief

does your terminally hungry brain abide?
Your weak limbs and tired eyes
suggest acceptance.

My well-fed limbs and I
oscillate (and always will)
between anger and depression.

We will never abide
that tiny children like you
should be left to die

in a calorie-restricted
greed-powered genocide
in Palestine.

Aspasia Eleni Paltoglou

Famine and grief in Palestine

The Science

This poem is inspired by Palestine, which is undergoing the 5th and final phase of famine, amidst a genocide.

According to IPC, there are 5 phases of famine. In Phase 1, essential needs are met. In phase 2, people have to engage in stress-coping strategies in order to afford important non-food items, although the food consumption is adequate. In phase 3, people are just about able to satisfy their food needs, but with great difficulty and cost. In phase 4, there is very high acute malnutrition and excess mortality, or people have to sell their assets to acquire food. In phase 5, the final phase, despite all efforts and coping strategies, people simply don't have enough to eat and starvation, death and destitution at extreme levels are evident.

The situation in Palestine fills me with grief and makes me wonder about the immense amount of grief Palestinians themselves must be experiencing. Kübler-Ross suggests that grief involves denial, anger, bargaining, depression, and acceptance. Despite the controversy around this model, a model that initially focused on the exploration of grief in terminally ill people, it has been very influential on the discussion around the psychology of grief.



Twilight Crescent Moon

D C Nobes

Twilight Crescent Moon

The Science

The Moon's phases reflect its orbital path around the Earth, as it shows different "faces" towards the Earth while keeping one "face" oriented towards the Sun. We thus see the phases of the Moon through its coupled rotation and orbit. This photo was taken during early twilight, as the clouds momentarily cleared to let a Balinese crescent moon shine through the gap, which in turn inspired the superimposed haiku.

Wolf Moon

The new moon calls to you from over the Lune.

You clutched your whelps' necks
between your teeth, ran to ground

under a claw-thin crescent.
They routed your mate, clubbed your last cub,
uprooted you from your den under Coniston.

You drew that rabble of wolvers and wolfhounds
from Coniston Old Man to Ulpha and Ulverston,
lost the dogs in the Knott's venomous yews.

You lured them through Copper Valley,
wiled the hounds from Foxfield
to Whelpshead Crag,
jinxed them across Mort Bank,
masked your scent in the estuary's channels.

You taunted them above Gait Barrows,
denned below Trowbarrow,
limped, foam-flecked, up Hunting Hill
to Humphrey Head. At bay.
The note of the mort.

Still your shadow lopes,
hollow-ribbed, over the hill.
You'll return as the moon rounds and blooms.

Yvonne Reddick

Wolf Moon

The Science

When did wild wolves become extinct in England? 'Wolf Moon' is a commissioned poem for Arnside and Silverdale Area of Natural Beauty in Cumbria, Northwest England, where folklore says that England's last wolf was killed at Humphrey Head in 1390.

This has been challenged by recent carbon dating of a wolf skeleton discovered at Fountains Abbey in Yorkshire in 1987, suggesting that these remains date from 1540. Further analysis of the skeleton by English Heritage will determine the animal's diet, which will reveal whether it was a true wolf, or a wolf-dog hybrid.

'Wolf Moon' celebrates the mythology surrounding the wolf, imagining the phases of the hunt which ended with the mort, the hunting horn's call which signalled that the quarry had been killed. This is also, however, an ecological poem about extinction and rewilding. The ending explores the idea that extinction may not be a one-way process, just as the phases of the moon are cyclic. There are ongoing discussions about whether the wolf could be reintroduced to Britain in places such as Cumbria. Captive wolves already live in a specialist wildlife park in Cumbria, where visitors can walk alongside them, centuries after the fabled death of the last English wolf at Humphrey Head.

The Art of Endurance

Poised like prophets,
ancient bristlecone pines
perfect the art of endurance.
Twisted trunks,
tortured by weather and time
thrive as living fossils.
Stories of ice and fire
etched in their rings
four thousand years told.
Do they whisper of cooler days
to the saplings who move
up hillsides, fleeing the heat?
Roots trailing behind,
some drink from deep springs below,
others curl up to befriend the stars.
What do the mountains murmur
to the glossy lakes
cupped in silent defiance?
A tale of piedmont glaciers
retreating like soldiers
after the war is done.

Yet silver creeks don't age,
they pulse through mossy meadows
from winter to spring
ridge to valley
shifting trails
after the rains.
Wildflowers remember joy.
They revel in granite's cracks,
perfume the air in dust storms.
Some even bloom
where no one dares to go
while humans chase exoplanets.
Mountain tops, proud, magnificent
guarding peace and the moon
while wars rage elsewhere.

Zed Sehyr

The Art of Endurance

The Science

This poem draws on the ecological role of bristlecone pines, ancient trees that act as living climate archives. Their growth rings record environmental phases over thousands of years, including droughts, temperature shifts, wildfires and atmospheric changes, making them central to dendrochronology. The poem reflects how these trees began to migrate upslope in response to warming temperatures. It also evokes glacial retreat and shifting hydrology, referring to broader planetary transformation. Wildflowers thriving in hostile granite rocks suggest resilience as well as ecological disturbance. By contrasting Earth's ancient witnesses with humanity's search of exoplanets, the poem highlights a poignant irony: while we look outward to find life elsewhere, the trees quietly archive the consequences of our actions in their flesh. The elongated stanza, which breaks the regular structure, is a visual analogy of hiking trails being reshaped after heavy rains, a mark renewal through erosion. Overall, each stanza is a snapshot of transition, attempting to capture the phases of climate life. First, temporal phases (ancient trees vs. young saplings; glaciers vs. lakes), spatial phases (trees migrating upslope; flowers blooming in unlikely places), emotional phases (joy vs. defiance), and finally, planetary phases (Anthropocene vs. human cosmic ambition).

It's simple, really

The night feels old in empty bars. Friday.
We are not sure if Ernest did, in fact
attempt to make the Art of Learn
a partially incomplete affair
without a way to share the love.

No scientific deed is ever truly done
or worthy of praise if it cannot
be told on Tuesday night
to any of the servers at the bar!
Oh Ernest, or Albert, or anyone out there
my loving brain can't wait to hear your thoughts
and receive the knowledge you have found!

Unlike Niels – who gets a Carlsberg tap –
I'll quench your thirst – your past, with libations of the mind
Old Fashioned curiosity – I'm eager
Bloody Marie Curie levels of exposure to good times
Cosmopolitan approaches to the who and what
should science serve, and
a planetary-orbit sized Margarita – rimmed with salt
on an authentically American Superconductor SuperCognac
(that never was)
followed by billions of Sazerac transistors in the palm of your hand.

Do you think you'll fit all that dark matter
in a metaphor so minimal that, mind you,
money might begin to move my more monotonous momenta?

Tell me instead about what plants have whispered in their roots,
what music do the stars allow up in their halls;
how tall the tower of my preciously packed oranges can get,
and where inside your body does the tremor of your love begin.

Give me all that science in the simplest of your smiles
but please, not any simpler.

Kevin D. Vallejo

It's simple, really

The Science

In the process of communication there are several phases: formation, encoding, transmission, decoding, and feedback. In science communication, the formation phase is arguably the most complex of all human communication. The magnitude of the efforts required for the task which is the scientific enterprise (education, training, cost, facilities, and safety) are all prerequisites to even the initial steps of the scientific method. This poem takes a famous, and dubiously attributed quote (to Ernest Rutherford) which claims that "an alleged scientific discovery has no merit unless it can be explained to a barmaid." Despite the outdated sexism, the author agrees with the message of the quote: scientific results are as good as undiscovered unless they can be ***communicated*** *to the people who very often helped pay for their acquisition (the taxpayers). With themes of botany and ecophysiology, cosmology, geometry, and even geology, this poem is a study and a plea to both scientists and science communicators to make their work available to the author, to themselves, and to everyone who wants to indulge in the fruits of the Art of Learn–science.*

The A to Z of Ergotism

Aching legs are the first sign, but you simply
blame the stars. It'll be several centuries until

Claviceps purpurea sounds like anything but a prayer.
Diarrhoea next – presumably just a bit of plague.

Entering the second stage. What's your preferred
flavour of ergotism: gangrenous or convulsive? Let's

go for convulsive – it offers the best of both, if you
hallucinate your limbs falling off. Toxins are now

inundating your brain and spinal cord, causing fever,
jitters, spasms. The fields beyond your village look

kaleidoscopic. Are those stalks of rye waving to you?
Luckily, the whole peasantry is in this together;

many of your neighbours are dancing down the street.
No, wait, those are involuntary movements caused by

overstimulation of their basal ganglia. Dear Lord.
Paranoia sets in. You question the dancing,

question reality, question the rye-flour. The flour
refuses to respond. You reach peak levels of

synaptic serotonin and dopamine.
There's a panicked stampede on the village green.

Unsustainable heart rate. Dehydration.
Vital organs on the brink of failure. Seizures

will soon herald the terminal phase of your
xenobiotic adventure. No, you can't have the Last Rites;

your village priest is adrift in the rye-fields, watching
zodiacs be drawn and redrawn in the infinitesimal sky.

Laura Webb

The A to Z of Ergotism

The Science

Ergotism is a disease caused by the ergot alkaloid family of chemicals, found in ergot fungus (Claviceps purpurea). These chemicals mimic serotonin and dopamine, neurotransmitters that control bodily functions such as gut movement, blood pressure, mood and sensory perception. From medieval times until the early nineteenth century, large-scale outbreaks of ergotism were common when ergot fungus infected cereal crops like rye.

The poem uses the abecedarian form, each phase of the disease arriving as inevitably as the next letter of the alphabet. The first phase of ergotism had vague symptoms like a viral illness. After that, different strains of the fungus resulted in two patterns of poisoning: gangrenous ergotism constricted arteries, reducing blood flow to the limbs, whilst convulsive ergotism featured hallucinations, mania or stupor and abnormal movements. Those who progressed to the fatal stage developed seizures, dying within weeks.

Public health measures have eliminated ergotism as an epidemic disease, with the last large-scale outbreak occurring in Ethiopia in 1977-8. The gangrenous form is still occasionally caused by ergotamine or ergometrine/ergonovine, medications for migraine and postnatal bleeding, respectively. Research into pharmaceutical uses of ergot alkaloids infamously yielded the hallucinogenic drug lysergic acid diethylamide (LSD) in 1938.

Biographies of Poets and Artists

Sunayana Bhargava Sunayana Bhargava is a British-born Indian astrophysicist and poet. She is an alumna of the Barbican Young Poets programme. Her work has been featured in the Bloodaxe Books anthology Hallelujah for 50ft Women, BBC Radio 3's The Verb and Arts and Ideas series, and by the Dead Women Poets Society. ***poem***

Kayla-Jane Barrie is a speculative poet and mixed media artist who blends environmental themes with the humanities in her work. Her darkly enchanting creations pose philosophical questions with a speculative twist. By combining mixed media and writing, she explores the human experience and communicates scientific research about nature, from soil to the cosmos. Her work can be found in The Fulcrum Review, Eccentric Orbits, and Dwarf Stars. Instagram: @kjabstractexpressions Website: abstract expressions ***artwork***

Corey Bunce is a biologist and philosopher of science from Connecticut, USA. In his developmental biology work at Duke University, he researched gonad patterning and sex determination in the mouse. In the course of this work, he co-authored a review on the connection between the cell cycle and differentiation (Bunce & Capel, 2016). In his philosophy work, he examines scientific discourse using literary theory, with a particular focus on the role of narrative in developmental and reproductive biology. ***poem***

Dr Rachel David is a scientist, science communicator, health behaviour researcher, yoga teacher, writer of many things and poet, who still doesn't know what she wants to be when she grows up. She writes poetry inspired by philosophy, nature and her furry babies. Her poetry has appeared in Dear Damsels, N2 poetry magazine,

Dark Poets Club and *Consilience's Field Notes*. She also regularly writes about the science of mind–body practices (and more recently poetry therapy) in her Substack, The Mind–Body Adventure. She is currently expanding her degree collection by studying for an MSc in Creative Writing for Therapeutic Purposes (CWTP) at Metanoia Institute. ***poem***

Mohsen Dolatabadi holds a Master's degree, progressing from the concrete micro world of analytical chemistry to the abstract macro world of cognitive psychology. Multilingual in Persian, English, and German, he has experience in consulting, teaching, and philosophical analysis. Struggling with hyperhidrosis early in life, he was motivated to overcome this invisible barrier by pursuing advanced degrees in more abstract fields better suited to his condition, becoming an enhanced thinker across micro and macro domains. Through poetry and lyrics in Persian and now English, he expresses his somewhat diverse knowledge and interests. ***poem***

debora Ewing: In addition to being an artist, poet in English, and lyricist, debora Ewing is Design Editor for Igneus Press and on the board of FolkWorks, advocating for preservation of Folk culture. ***poem***

Kate Giffin Kate Giffin is a poet and a PhD candidate in neuroscience at the University of Michigan. She studies how severe infections can lead to long-term brain issues like dementia, focusing on the immune cells of the brain (microglia!). Her poetry can be found in Shooter Literary Magazine, Glintmoon, Consilience, EquilibriUM, and her Substack experiments in poetry. ***poem***

Alison Hramiak is a part time poet and writer living and working in West Yorkshire. She has written poems from an early age and has been published in several Forward Poetry anthologies, New Contexts, various charity collections, and also on various web sites such as Dirigible Balloon, Impspired and The Causley Trust. She loves literature and ancient history and would have been a paleoanthropologist/archaeologist if this job had existed before she studied biology. Website: Alison Hramiak. ***poem***

Professor Sam Illingworth is an Edinburgh-based poet and academic, whose work explores the intersections between poetry, science, and society. He is also the founder of *Consilience*, and his latest collection of poetry The Poetry of Physics was published by CRC Press in 2025. Website: Sam Illingworth. ***poem***

Dr Anna Joyce is an academic and sleep therapist based in London, UK. She is fascinated by why we sleep, and how to help people get more of it. Inspired by science and psychologies, her poetry explores nature, evolution, and human experience, and has been published by *Consilience* and The Seat. She enjoys playing the piano, taking long walks, creating beautiful things, and finding awesome in the ordinary. She lives in South London with her husband, two children, and a little black cat. ***poem***

Hannu Larsson is a Swedish researcher in the area of information systems, with an interest in societal digitalization, digital inclusion and sustainability. His research has been published for instance in Government Information Quarterly and presented at the Hawaii International Conference on System Sciences (HICSS). He is interested in how poetry can be used as a means of creating access

to different perspectives as well as in research specifically. His poem "Digital othering" was published in issue 17 of *Consilience*, and he has been acting as a reviewer for the journal since issue 18. ***poem***

Mirjam Mahler writes poems and stories. She says her body is German, her heart is Spanish and her words are mostly English. She swims in lakes year-round, hosts writing workshops and book clubs. Her poems have been published in numerous anthologies and journals and she published Cold Water Poems and Warm Water Poems in 2024. Mirjam is co-editor of Facing Goodbye – a poetry anthology for The Wee Sparrow Poetry Press. She volunteers at The Wee Sparrow Poetry Press and *Consilience* Journal. Website: mirjamwrites Instagram: @mirjamwrites Substack: mirjammahler. ***editorial, poem, poem***

Mariana Moroni is a professor of History in Rio Negro, Argentina. She loves swimming, travel, and stringed instruments. Mariana Moroni and debora Ewing sometimes collaborate in music; this is Mariana's first venture into translating poetry. ***poem***

D. C. Nobes, a Canadian New Zealander, is a physicist, poet, and photographer who, aside from 2 years on Vancouver Island, spent his first 39 years in or near Toronto, Canada, then 23 years based in Christchurch, New Zealand, 4 years in China, and has since retired to Bali. He used to enjoy winter but admits that he doesn't miss the snow or the cold. He thinks almost all poetry is meant to be read aloud. His poetry and art photographs have been widely published. Instagram: @sebon52 Website: D C Nobes ***artwork/poem***

Dr Aspasia Eleni Paltoglou is a chartered psychologist and academic. She has published research articles in various areas of psychology, magazine articles and poems. She is an Editor for *Consilience* journal, Member of The Psychologist advisory editorial committee (flagship magazine of the British Psychological Society), Associate Editor for Frontiers in Education (Higher Education), and member of the editorial committee of Meta-narratives (Diem25). She is a COVID-realist academic (she still wears a well-fitted respirator everywhere) and she is sick from genocide. ***poem***

Yvonne Reddick is a writer and environmental documentary filmmaker. She is the author of Burning Season (Bloodaxe), which won the Laurel Prize for Best First UK Collection of Ecopoetry in 2023. Her latest film is Life After Fire, produced with neurobiologist and conservation filmmaker Aleks Domanski. She loves collaborating with climate scientists, ornithologists, ecologists and fascinating transdisciplinary people. ***poem***

Zed Sehyr is an Assistant Professor of Communication Sciences and Disorders at Chapman University in California, where she investigates how sensory-motor experiences shape language and cognition. She has a deep curiosity about how we perceive and communicate. Zed is a poet whose work explores nature, humanity, and the cosmos through scientific and historical lenses. Her poem "Hunger for Awe" won first prize in the "Love This: Non-personal Love Poetry" contest. She also hosts Nerd Nite San Diego, a bi-monthly event that brings engaging science talks to the general public in a fun, informal setting. When she's not doing science, she's adventuring outdoors. ***poem***

Steve Smart is a poet and artist living in Angus, not far from Dundee, Scotland. As well as ecological themes, Steve is interested in memory and technology, both working and dysfunctional. Steve designed this edition of *Field Notes* and his artwork features on the cover. Instagram: @duntruner Website: Steve Smart ***artwork***

Kevin D. Vallejo Kevin D. Vallejo is a writer currently living in Idaho, U.S. Originally from the border region of Ciudad Juarez/El Paso, Kevin writes about nature from technical and aesthetic perspectives. His work has been featured in The Marbled Sigh, Beyond Queer Words, Menagerie 208, while his editorial and technical work has been featured in Physical Review B, ACS Nano, Reports of Progress in Physics, among others. His collection "Energy and Nothingness: Poems for the First One Hundred Years of Quantum Mechanics" (The Poetry Box, 2025) can be found now. During the day, Kevin works as an atom stacker for a U.S. Department of Energy national laboratory. ***editorial***, ***poem***

Dr Laura Webb is a resident doctor based near Brighton, UK, whose writing explores themes of illness and healing, ecology and folklore. She runs writing-for-wellbeing workshops and is currently creating a poison-themed portfolio of poems for an MA at the Poetry School/Newcastle University. Her work has been widely published in journals and anthologies. In 2025, she won the F. Sean Hodge Prize for Poetry in Medicine and was highly commended in the Hippocrates Prize. Instagram: @laurawebbpoetry ***poem***

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Your £2.50 donation for this edition of *Field Notes* will go to support Arts Emergency.

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